THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

approach

October 2001

Freezing at the Equator

Saved by a Good Wingman

Riding on the Rim

approach

The Naval Safety Center's Aviation Magazine
October 2001 Volume 46, No. 10

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Lt. Hartley Postlethwaite, VS-38
Capt. Stan Hester, VMFA(AW)-332
LCdr. Schuller, HS-2
Lt. William Berry, VAW-116
LCdr. Dan Cheever, VFA-147
Ltjg. Tim Burke, HC-8


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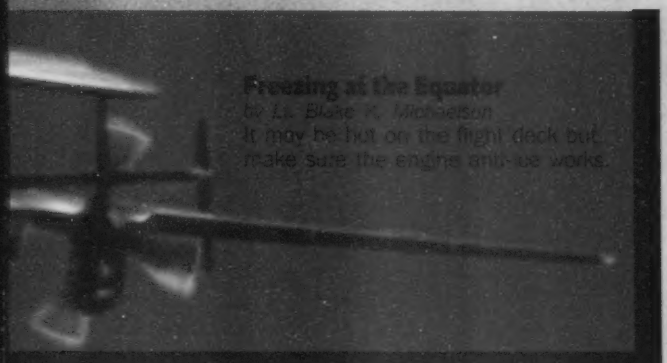
features



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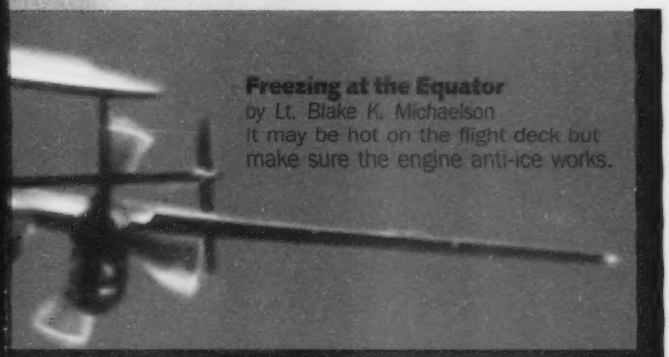

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Freezing at the Equator

by Lt. Blake K. Michaelson

We had just crossed the equator at the international dateline (read: Golden Shellback) and the weather was hot and humid, with big puffy clouds everywhere. We had some pretty big buildups during the day, CBs up to 18,000-20,000 feet, but it was easy to pick our way through them. As a nugget in my first month of a WestPac cruise, I was renewing my night currency and flying my second blue-water hop of the day. The nearest chunk of land, an uninhabited rock, was more than 400 miles away.

We briefed and manned-up with no hitches. I was in aircraft 602 for the second time, having flown it earlier in the day with no major front-end gripes. It was a typical black night, meaning no moonlight, no horizon, and no NVGs. I vividly remember thinking, "How in the hell are we going to pick our way through the clouds? Oh well, I guess we'll just press through them. It might get a bit bumpy, but we'll get on top and be OK."

We then were shot into the blackness. We tooled out to 12 miles at 1,000 feet and began to climb. I'd under-rotated off the cat shot, prompting some special attention from my skipper. I was cautious, since we were IFR, and dedicated my scan entirely inside. I slowed down so we could let out the HF trailing wire, going to on-speed in the climb. As we were climbing through 16,000 feet, I made a turn to our first stationing fix, right into a big puffy cloud. My skipper questioned this but advised me to maintain my current heading, stating, "We'll be on top soon enough."

Two to three minutes later, passing through 20,000 feet, we got a master caution light indicating that we had a pitch-feel problem. This controllability problem occurs when two key cross-checked airspeeds differ by 25 knots. I took a look at my airspeed and saw it pass through 80 knots and then to zero! I leveled off and told my skipper about the airspeed indication. His airspeed looked OK. A quick check of groundspeed led us to believe his airspeed indicator was accurate. We leveled off and turned, trying to get out of the cloud. The skipper double-checked our switches

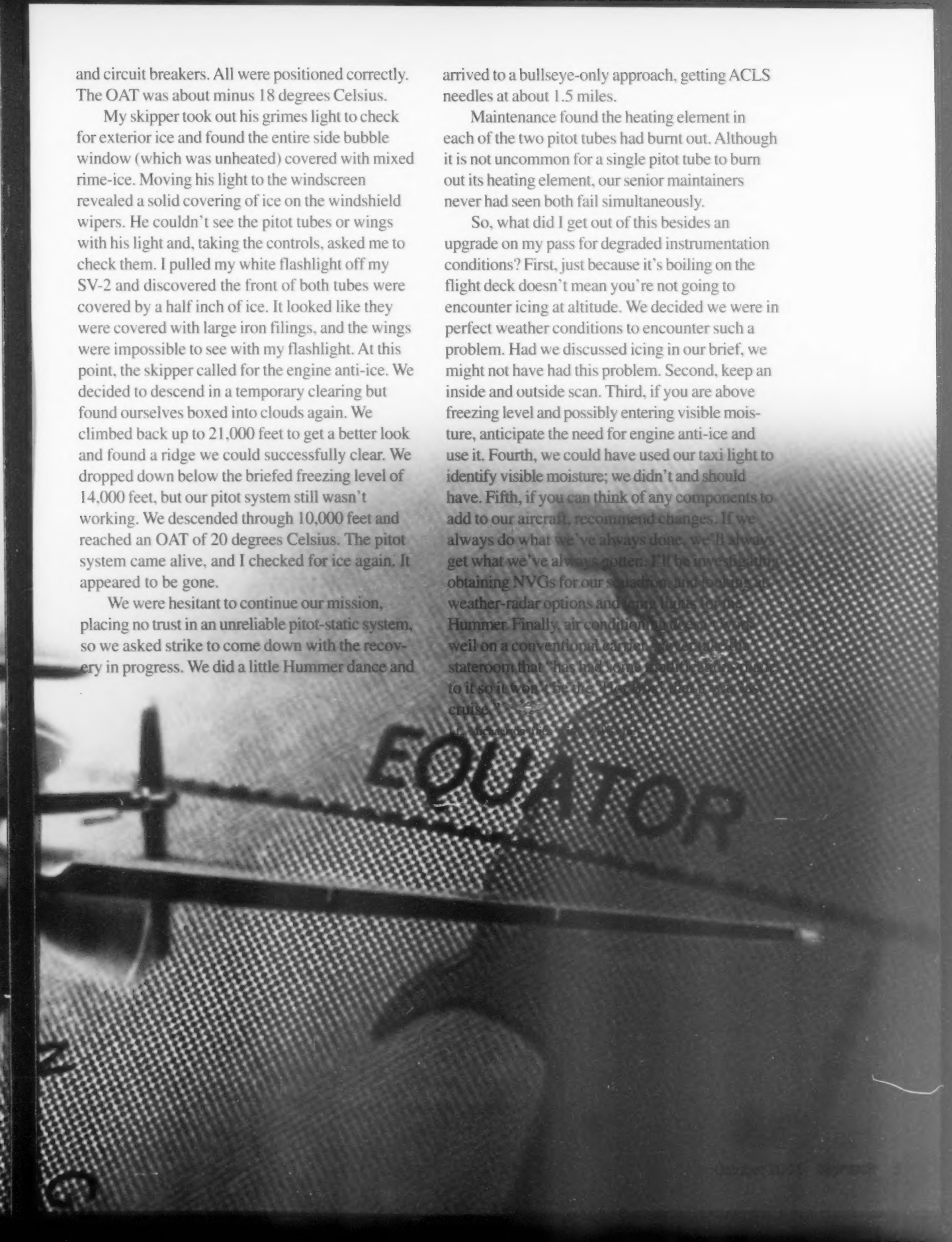
and circuit breakers. All were positioned correctly. The OAT was about minus 18 degrees Celsius.

My skipper took out his grimes light to check for exterior ice and found the entire side bubble window (which was unheated) covered with mixed rime-ice. Moving his light to the windscreen revealed a solid covering of ice on the windshield wipers. He couldn't see the pitot tubes or wings with his light and, taking the controls, asked me to check them. I pulled my white flashlight off my SV-2 and discovered the front of both tubes were covered by a half inch of ice. It looked like they were covered with large iron filings, and the wings were impossible to see with my flashlight. At this point, the skipper called for the engine anti-ice. We decided to descend in a temporary clearing but found ourselves boxed into clouds again. We climbed back up to 21,000 feet to get a better look and found a ridge we could successfully clear. We dropped down below the briefed freezing level of 14,000 feet, but our pitot system still wasn't working. We descended through 10,000 feet and reached an OAT of 20 degrees Celsius. The pitot system came alive, and I checked for ice again. It appeared to be gone.

We were hesitant to continue our mission, placing no trust in an unreliable pitot-static system, so we asked strike to come down with the recovery in progress. We did a little Hummer dance and arrived to a bullseye-only approach, getting ACLS needles at about 1.5 miles.

Maintenance found the heating element in each of the two pitot tubes had burnt out. Although it is not uncommon for a single pitot tube to burn out its heating element, our senior maintainers never had seen both fail simultaneously.

So, what did I get out of this besides an upgrade on my pass for degraded instrumentation conditions? First, just because it's boiling on the flight deck doesn't mean you're not going to encounter icing at altitude. We decided we were in perfect weather conditions to encounter such a problem. Had we discussed icing in our brief, we might not have had this problem. Second, keep an inside and outside scan. Third, if you are above freezing level and possibly entering visible moisture, anticipate the need for engine anti-ice and use it. Fourth, we could have used our taxi light to identify visible moisture; we didn't and should have. Fifth, if you can think of any components to add to our aircraft, recommend changes. If we always do what we've always done, we'll always get what we've always gotten. I'll be investigating obtaining NVGs for our squadron and looking at weather-radar options and wing lights for the Hummer. Finally, air conditioning [illegible] well on a conventional carrier. [illegible] stateroom that "has had some [illegible] to it so it won't be the [illegible] cruise."



Any Questi

by Lt. Matthew Norris

The flight lead's brief covered the sight picture, closure, and tanker-related emergencies. I wasn't very clear on the details surrounding damaged AOA or pitot-probe emergencies, but I felt comfortable with my ability to handle these unlikely events. I was more worried about getting in the basket and staying there.

The departure out of Fallon and rendezvous with the tanker went well. The lead got his plugs first to show me how easy it was. Then the other Hornet pilot went. He jousted with the basket a little bit but not too badly. Then it was my turn. I missed a few times, and the lead told me I needed to keep the closure going. I was throttling back when I got in close, and the bow-wave was moving the basket all over the place. After a couple more tries, I made it into the basket. After a few more off-target attempts, I completed my day plugs. I thought everything went well.

The flight then left the tanker for 15 minutes of night-comfort time. I was confident I had the hang of it and was ready to go. We rejoined the tanker and lead tanked first. The other pilot followed with only minor difficulty, returning to base while the flight lead stayed on the starboard wing of the tanker. Now it was my turn. I finished my tanking (only a little colorfully).

On the way back, I checked my AOA on the flight control system (FCS) page, and everything seemed normal. We came in for a night break. This is where the fun began. Approaching the 180, the familiar "deedle-deedle" of the master-caution audio warning system brought my attention to the right DDI, which was displaying an FCS caution. Immediately the jet became sluggish. I quickly noticed that, even though the E-bracket (which indicates on-speed in the HUD) was showing me fast, aircraft airspeed was decelerating through 123 knots, and the velocity vector was flashing due to being HUD limited. I went to military power and told my lead, who was in the groove, to take it around.

We joined north of the field and contacted base. We did an AOA check and determined my right AOA probe was inaccurate. Even though there was a split between the left and right AOA indications, the split was not enough for the jet to declare AOA invalid. We were fast becoming fuel critical. After deliberating with base about going to gain override, we

ons?

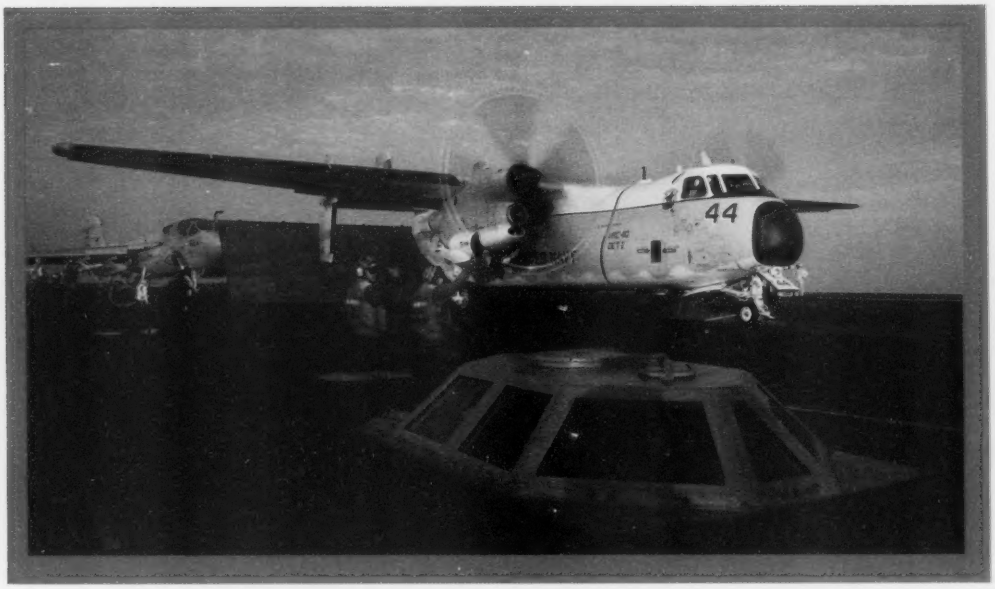
Photo by SSgt. David W. Richards
Photo manipulation by Yvonne Dawson

decided against it in favor of flying a fast approach. I touched down at about 155 knots, bounced a couple of times, and came to an uneventful stop. On post-flight inspection, it was dis - covered both the AOA and pitot probes on the right side were severely bent.

The AOA system and associated emergencies had definitely been a gray area for me during the brief. For a guy tanking in the Hornet for the first time, the emergency procedures for AOA probe damage should have been crystal clear in my mind. This incident reemphasized the importance of doing a good on-speed AOA check during the landing checklist – a basic, yet critical step for any carrier aviator. I caught the discrepancy, but I easily could have lost control of the jet.

I learned two valuable lessons that night. First, always ORM the hop and prepare to minimize the most likely risks. For me, this should have entailed reading the NATOPS procedure for AOA probe damage in detail. My second lesson was just as fundamental: When you have a question in the brief, be sure you get it answered.

Lt. Norris flies with VFA-147.



A Little off the Top, Please

by LCdr. Bill Halverson

It was one of those days working on the flight deck when you knew something was about to happen. We had been in the Gulf for several months, baking in the summer heat. The crew was tired and a little complacent.

I was working the bow cats during a twilight launch, and we were about to launch the COD from cat 2. Final checkers were doing their thing, and time was approaching to signal the pilots to spread the wings.

Aft on cat 3, my fellow catapult officer was in the process of launching a Tomcat. If you haven't had the privilege of launching a few tons of roaring steel down the flight deck, you need to know about a couple precautions aimed at making sure all goes well. The first is that we don't launch anything from cat 3 if we are launching a COD from cat 2. The clearance just isn't there—you're liable to bump wings. The second is our ace in the hole—the "suspend" call. It was about to come in mighty handy.

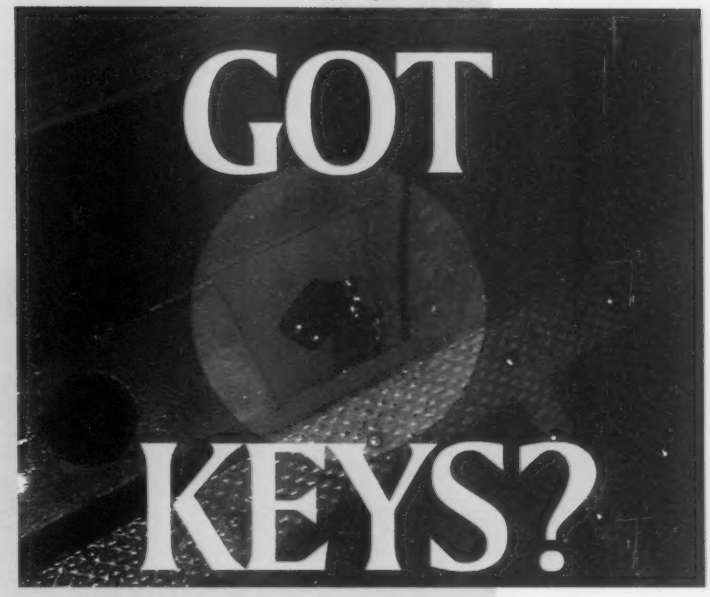
We were about to spread the wings of the COD, on the bow cat, and launch it. I walked in front of the COD to check clearance for the waist shooter and noticed the final checks were complete. The jet was in tension and about 15 seconds from launching.

On the bow, the cat 2 director gave the COD crew the spread signal. The wings of the COD were cycling out and then I saw the shooter was just about to launch the Tomcat on the waist. At the last second, I gave the suspend call to the yellowshirt to stop the wingspread of the COD. The boss heard my call to the yellowshirt and suspended the launch on the waist. We averted catastrophe by only seconds.

Some Tomcat driver and his RIO don't know how close they came to getting a very close—and permanent—haircut that day.

LCdr. Halverson now flies the SH-60F and HH-60H with HS-2.

photo by AME1 John Brazil



by AME1 John Brazil

There I was, finishing a good flight. I got plenty of training signed off and was feeling good about my accomplishments. I was ready to leave early so I could make an off base appointment when I realized my car keys weren't where I usually left them. I tried to remember where they could be.

I started backtracking where I had been. The routine was the same every day. I got to work and checked the flight schedule and brief time. I then went to maintenance control to read the ADB (before my crew chief) and get some of the signoffs I needed. The first change in routine occurred while I was reading the ADB. The maintenance control chief told me that, because of the busy flight schedule, my shop was short on bodies and didn't have any representatives to attend the maintenance meeting. I volunteered to go since I still had plenty of time left before my brief.

The flight went better than planned. Crew coordination went very well, and the crew chief couldn't stump me with a single question during the flight. I was feeling good about the flight and was beginning to get the hang of my new job. Just when I thought everything was going so well, I needed my keys.

My keys… I thought about what anyone else might have done in this situation. I told my supervisor, QA, and maintenance control. I backtracked to every place I'd been. Maintenance recalled the aircraft; I was right there in QA when the aircraft taxied in. Sure enough, my keys were in the aircraft, right where my flight bag had been. At first I was extremely relieved to have found my keys, but then I started thinking about how this all happened, and more importantly, how it could have been prevented.

I was fresh out of a safety stand-down on Friday, and by Monday I had already forgotten some important lessons. Think about it: If my keys had fallen into the flight-control closet, I might not be here to tell this story! Or even worse, I might have been writing a story about how I was responsible for the loss of fellow squadronmates.

Will you be the one to write the next story?

AME1 Brazil is a SAR crewman with HC-8.

ORM Corner

Is That a Shor

by 1st Lt. Patrick M. Glynn, USMC

August 16, 2000, was a typical hot and hazy day in Kingsville, Texas. I was flying T-45As with VT-21, trying to earn my wings. I was excited about the weapons portion of the syllabus. This was going to be my first time dropping Mk-76 bombs from the jet. After all, who wouldn't be excited about spreading the "blue death" all over south Texas? I felt I was ready for anything. I knew my emergency procedures, my SOP, and my tactics. What I wasn't prepared for was my first near-midair.

On this sortie, we would be flying a three-plane pattern instead of the usual four-plane. My instructor and I briefed our flight first. I had dropped bombs in the simulator but hadn't had to deal with communications or other aircraft. My instructor, an AV-8 pilot, went into great detail about the 30-degree bombing pattern, which we would be flying. When we finished, the flight lead briefed all the aircrew. The flight lead was a seasoned S-3 pilot with a good reputation in the weapons pattern. We would hold the Dash 2 position. Another AV-8 pilot flying for his weapons qual, with an instructor from Training Wing Two as his checker, would occupy Dash 3.

The flight took off without incident en route to "Yankee" target, one of the two local targets north of the air station. "Yankee" target was actually a range of three targets in a large rectangle, visible from the air. The left target was a small strafing target for gun runs. The right target was small circle used for rocket practice. The middle target—a large circle—was the only target I cared about. Accuracy was only a matter of personal pride (the traditional bets on first drop, best drop, and best Circular Error Probable [CEP] had been placed), but one day, Marines on the ground would depend on my proficiency.

Leading into the target was a long, straight, dirt road, very clear from the air, which marked our run-in heading. Per training SOP, if an aircraft rolls in on the target greater than 10-degrees off the run-in heading, that pilot must abort the bombing run. Lead had a little trouble finding the target at first, but he recovered nicely. From the get-go, my helmet was on fire, I had marbles in my mouth and felt I was so far behind the aircraft. Trying to fly the pattern, while keeping our interval in sight and maintaining altitude, proved to be a challenge. Lead called, "One in hot," and began his run. From my vantage point, something looked odd, but what did I know? We began our first run, and I was happy to hit the target. As the flight progressed, I settled down, caught more of the comm calls, and tightened my CEP.

We were flying a three-plane pattern, so it was harder to keep our interval in sight. Since I was on my first weps hop, this pattern was a problem for me. Every time I lost my interval, I had to stay at my sanctuary altitude of 6,000 feet. Every time I reacquired him, I could climb up to 8,000 feet and prepare for my run. Sun angle and haze made it even more challenging, and that is why every pilot must fly the tightest pattern possible. Each time I saw the lead, he was outside of the pattern I was flying.

ORM Corner
is a bi-monthly department

Please send your questions, comments or recommendations to Cdr. John Anderson or to Capt. Denis M. Faherty, Director Operational Risk Management. Cdr. Anderson's address is: Code 11, Naval Safety Center, 375 A St., Norfolk, VA 23511-4399. (757) 444-3520, ext. 7203 (DSN-564). E-mail: janderson@safetycenter.navy.mil

Write Capt. Faherty at OPNAV Code N-09K, 2000 Navy Pentagon, Rm. 5E-816, Wasington DC 20350-2000. (703) 602-5053, (DSN-332). E-mail: faherty.denis@hq.navy.mil

tcut to the Target?

"One in hot," lead called. I had lost sight yet again and was unable to reacquire him. I made my abeam call and looked for him in the chute.

"I don't see him, sir," I told my instructor.

"He's in the chute, start workin' it up," he told me.

I said, "Sir, I don't see him in the chute." I stayed at my sanctuary altitude.

My instructor couldn't see him either. My instructor's voice came over the ICS, "Where the hell is…" With that, lead cut across our nose, on his 30-degree, 450-knot dive, over 50 degrees off the run-in heading. He passed us co-altitude, about 200 feet from our aircraft.

After a bit of screaming and swearing in our cockpit, my instructor came over the radio in a stern and sarcastic voice (something he was good at): "Two approaching, now the lead's in sight!" We watched him violate SOP and drop his bomb (good hit, too). My heart was pounding, and I couldn't believe how close lead had just come to hitting us. Had there been contact, he would have blind-sided us and the biggest summer firecracker over south Texas would have ensued, with no chance for ejection.

My instructor and I were now partners in survival, rather than teacher and student. He made the calls and I flew a wide pattern to keep lead in sight. My instructor's call alerted Dash 3 to a possible problem. On the very next run, lead again rolled in more than 50 degrees off the run-in heading and this time the wing instructor made the call, "Abort, abort. That's not your run-in heading." It was easy to gauge how far off he was by comparing his flight path to that large dirt road that marked the heading. We finished the flight without further incident, still not believing what had just happened.

At the debriefing room, flight lead came in and got right down to business. He had me put up the CEPs so we could settle the bets and tally the beer tab. The look of awe on my instructor's face was worth a million words; of course, none were spoken at that moment.

A number of factors lead to this near-catastrophe. My loss of situational awareness and lack of skill on my first hop didn't do us any good. I also took for granted my student status and expected the instructors to get me through the flight, something we're briefed never to do. An enthusiastic flight lead who cared more about scoring bulls and less about the safe conduct of the flight didn't help the situation. He also flew a horrible pattern. My situational-awareness curve shot through the stratosphere on the next flight. The lead's weapons quals were yanked, and my instructor threw me a bone for the hop (thanks, Catfish!).

1stLt. Glynn flew with VT-21 and is currently assigned to VMFAT-101 at MCAS, Miramar.

This Was Supposed

by Capt. Michael R. Brunnschweiler, USMC

The six-week spring WTI course was drawing to an end and, as one of the AV-8B students, I was looking forward to graduating on Monday. Saturday afternoon was devoted for planning and the last event, FinEx II, was scheduled for Sunday.

Since my Maverick shoot had been cancelled early in the syllabus, I was to fly it on Saturday afternoon while everyone else was planning. That suited me just fine. Why would I pass up the opportunity to shoot a Maverick, drop a couple of 1,000-pounders and then fire off 300 rounds of 25mm HEI? The flight lead for this sortie was the MAWTS-1 Ops O, and Dash 2 was another IP. The brief went smoothly as a well-oiled machine; everyone knew their jobs and capabilities. Lead and Dash 2 were carrying 10 Mk-82 500-pound HE bombs, each with an additional 300 rounds of 25mm HEI. The laser spot was going to be provided courtesy of a section of FA-18s. By all accounts, this was going to be a good deal!

After briefing all emergencies and contingencies, Dash 2 reminded me that, should I have to jettison my bombs, I needed to selectively jettison them to retain the LAU-117 launch rail of the Maverick. Little did I know I would do this in an hour.

The preflight, takeoff, and transit to the training area were uneventful, and we contacted the FA-18s for a laser spot. I was detached from my flight, proceeded inbound to the target area, and began my profile. The target lock and target verification went as planned, and I rifled just outside of three miles,

leveled my wings, and came off towards the south, watching for the impact.

On my way back to altitude to join my flight, I felt a slight thud with no secondaries. I double-checked my stores page to make sure I still had all my ordnance because it felt like an ordnance release. Since I was beginning my rendezvous with my division and had no other indications, I chalked it up to jet wash. Back in formation on the port side, I felt another thud. This time I double-checked all my pages and still saw nothing wrong. A few seconds later I got a caution light with audio tone. Hyd 1 failure! Checking the gauges, I saw Hyd 1 counting down through 1,500. I notified lead of my problem.

"Knock it off," called Dash 3.

I proceeded to evaluate the situation. Having had a Hyd 1 failure before, I started turning towards home, not being too worried. Then more caution lights illuminated that had no association with a Hyd 1 failure. Something made the hair stand up in the back of my neck. I turned right again to position for jettisoning the stores. I remembered to selectively jettison my Mk-83s in order to bring back my LAU-117, since I didn't want to do any paperwork later on.

Shortly after jettison, my situation got worse. I got an unsafe-gear indication and double-checked to make sure my gear was up. At the same time, I got a fire warning. I kept relaying what I saw to my wingmen. They confirmed that smoke was coming out of the bottom of the fuselage. I initiated emergency procedures for an in-flight fire as my stick started programming back and to the right. To counter it, I pushed the stick forward and to the left. The aircraft initially responded to my input. Seconds later, the aircraft started moving up and right again, even though my stick was fully deflected.

Realizing that things were about to get uglier, I relayed I was ejecting, stepping on a simultaneous call from my wingmen to eject. As I let go of both stick and throttle and reached for the ejection handle, I felt the aircraft squat and pitch up violently. Data showed that in one second, I had gone from 280 knots to 70 knots.

Waking up in my parachute, I found that procedures seemed to come automatically. Step 1. I'd make sure I had a good parachute. Steps 2 and 3 aren't recommended over land. Step 4. Options. Visor. What visor? Mask and gloves were off. Now, what just happened and

To Be a Good Deal!

photos by Capt. Michael R. Brunnschweiler, USMC

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To Be a Good Deal!

photos by Capt. Michael R. Brunnschweiler, USMC

why is everything so blurry? I looked around and saw my wreckage off to the left. As I turned in my parachute, I saw the impact of bombs, dropped by my wingmen, in the vicinity of Blue Mountain.

Why is my vest all red? As I looked down, a steady stream of blood came from around my left eye. I touched the area, and it was all puffy and felt numb. Add to that, my right shoulder was hurting. Well, this was going to be an interesting landing.

After an eternity in the parachute (I ejected from 11,000 feet), the ride came to an end in the desert. On touchdown, I released my Koch fittings and turned off my ELT. While waiting for SAR to come pick me up, I had time to reflect on what just happened. I started feeling the pain from my injuries. Thirty minutes later, a Yuma SAR helo, came to pick me up and transported me to Yuma Regional.

I had a dislocated shoulder, a skull fracture, and a traumatic injury to the left eye, which was the big problem. It was cut open through the cornea, and I had lost my lens, iris and eye fluid. They extracted several visor pieces from the eye. I have since undergone four surgeries for the eye, and the end result is still up in the air (that's where I intend to be again – in the air).

Several good things came out of this mishap. One, we are not flying with the old harnesses anymore, which were prone to riser slap. Second, my belief in aircrew coordination training has been reaffirmed, especially for single-seat aircraft.

I never got a chance to thank the SAR crew that day, but I am eternally grateful for their quick response. I later found out that a KC-130 was diverted to the scene to provide fuel. The FA-18s that had given me a laser spot came back on scene, and my wingmen were able to remain throughout the recovery effort.

Capt. Brunnschweiler flew with VMA-231 and is now at HQMC.

Simulated Malfun

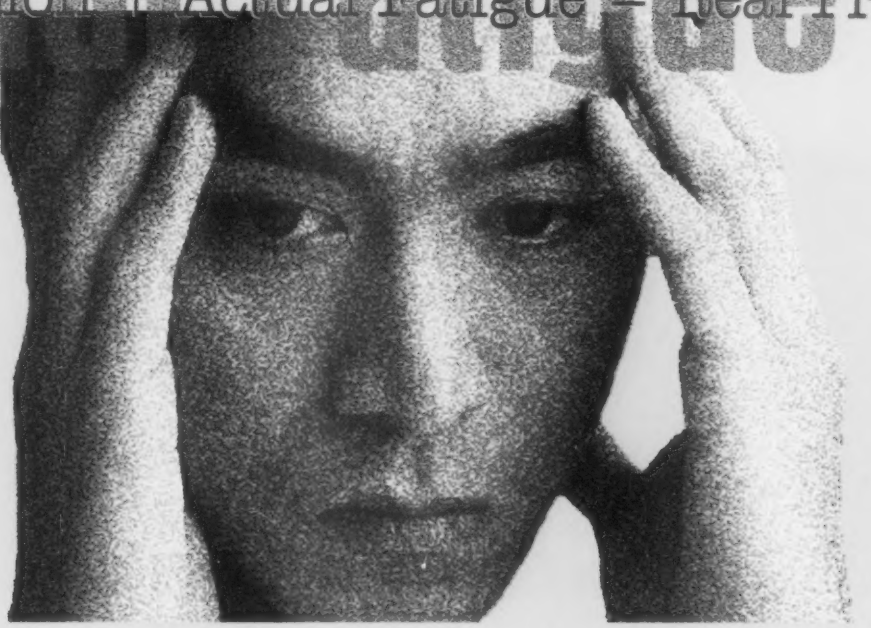
by AD1 Rene Watson

It was a typical training flight in a P-3C. We had set up simulated malfunctions in accordance with NATOPS and the Flight Instructor's Guide (FIG). Although I'm an experienced instructor flight engineer with plenty of hours on the circuit-breaker panel, this time I was overcome by mental fatigue but I didn't realize it.

During the four days prior to this training event, I had been studying extensively for an airframes-and-powerplants certification exam. I was getting only about five hours of sleep each night, which compounded my fatigue. Three days of testing, followed by the agonizing anticipation of the test results, only added to the mental overload.

The instructor pilot set up an engine fire as the simulated malfunction. While dealing with this problem, the instructor flight engineer has to pull all the circuit breakers for the fire-extinguishing system to keep from actually discharging the extinguishing agent into the engine. This setup was routine for all training flights, and I'd done it many times. The simulated malfunction was briefed before takeoff; however, I failed to pull the fire-extinguisher circuit breakers before the student

nction + Actual Fatigue = Real Problem



activated the extinguishing agent. Although the engine wasn't damaged, we had to RTB because we had lost the primary source of fire protection for that particular engine.

My fatigue had made me lose situational awareness. Acute fatigue, which is one of the two basic types, is caused by too much mental activity and can be relieved by a good night's sleep. The second type, chronic fatigue, is caused by long exposure to stress; some of the symptoms include insomnia and forgetfulness. People usually don't recognize the symptoms. In this case, even if I had recognized the symptoms, I wonder if I would have done anything about it. Would I have toughed it out to complete the event? Experienced aviators and instructors tend to feel overconfident when it comes to situational awareness or the lack thereof.

I learned a couple of valuable lessons from this flight. First, it's hard to stay focused if you don't have enough rest. Second, it's easy to become overconfident when you have a lot of experience. You assume you can push past personal limits. Last, my wake-up call came cheaply. I hope other instructors learn from my errors in judgment before they learn a more expensive lesson.

AD1 Watson is an instructor flight engineer for VP-45.

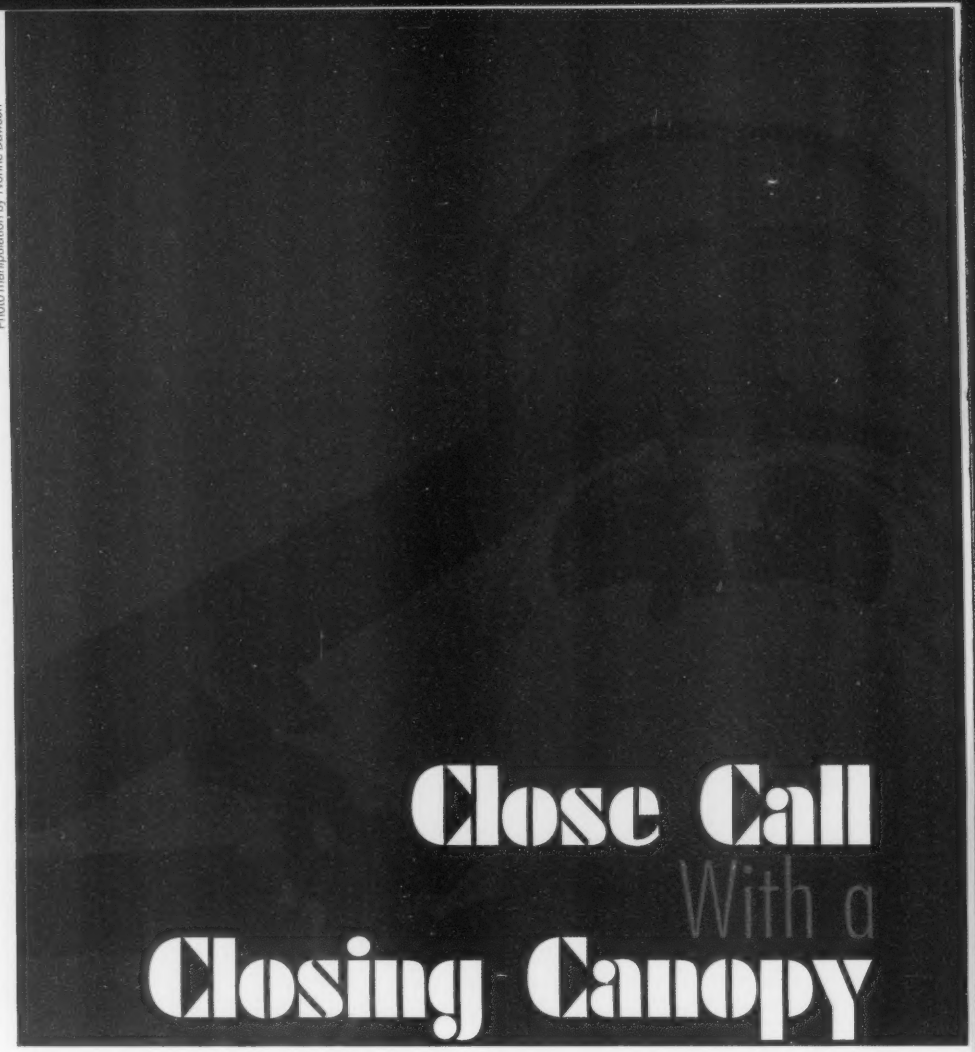


Photo manipulation by Yvonne Dawson

Close Call With a Closing Canopy

by LCdr. John Elstad

It was an uncharacteristically cold and rainy day as I manned up for my first Operation Southern Watch (OSW) flight since our arrival in the Persian Gulf. I had that touch of anxiety you get anytime you do something you have not done in a while. It had been more than a year and a half since I had served my last sentence in the hot box.

The weather had been cloudy, and sure enough, a steady rainfall was coming down as we hit the flight deck to man-up. We headed for our Prowler. Our flight-deck chief gave us a heads-up that the flight deck had just lost power. We would have to wait a little while before manning the aircraft. I did a preflight and found myself a nice dry spot underneath the starboard wing, which kept me out of the rain. As launch time approached and still with no power, our crew started to worry about getting behind on our startup sequence. I discussed it with my pilot, and we decided to open the canopies, jump in, and then quickly shut the canopies to keep the rain out of the cockpit and its delicate electrical systems.

I waited on the starboard side of the jet while the plane captain opened the forward and aft canopies. As soon as they were up, I quickly climbed up the starboard boarding ladder, stepped onto the ECMO 1 boarding platform, and started to preflight the ejection

... I noticed pressure being exerted on my back. I thought someone was slapping me on the backside to get my attention.

seat. I had just started pulling pins when I noticed pressure being exerted on my back. I thought someone was slapping me on the backside to get my attention. I looked back and noticed the canopy closing on me. I immediately tried to back out of the way, but part of my SV-2 was caught on the canopy rail, and I couldn't get out. As the pressure increased, my mind raced. My instincts took over as I tried one more lunge to get out of the way. My SV-2 broke free, and I entered the freefall part of my adventure.

Off balance, I fell off the boarding platform in one ungraceful motion. The EA-6B boarding platform is seven to eight feet above the deck. This may not seem like much, but it makes for a rough landing when your cushion on the bottom end is steel deck plate.

I hit the flight deck at an angle close to what we practice doing parachute-landing falls. I was stunned and stayed in a prone position for a minute or so. I gradually got my wits about me and started moving various parts of my body to make sure nothing was broken. Cautiously standing up, it seemed like all my parts were working as advertised. I slowly started to walk around, and other than having pain in my right leg and elbow, I was pleased to find I was in decent shape. A group of squadron maintenance and flight-deck personnel had arrived at the scene and were checking on my well-being. I said I was OK.

My swan dive had resulted from a miscommunication between the plane captain, on the port side of the aircraft, and the flight-deck chief, on the starboard side. The plane captain had asked the chief, using sign language, whether the boarding ladder was clear so he could close the canopies. He got what he mistakenly thought was the all-clear signal and proceeded to shut the canopy, unable to see my side of the jet.

I felt lucky to come out of this incident with nothing more than a few bumps and bruises. I could have been crushed by the canopy, and the fall to the flight deck easily could have produced a few broken bones. The fact that I had on my flight gear and helmet cushioned the fall. Our jet was parked right next to elevator 1, which was up at the time. I landed on it, and I can only imagine what would have happened had it been lowered.

After chatting with our flight-deck mechs, I found out that someone had decided to close the canopy shortly after it was opened, which is why my pilot never climbed up his side. The plane captain had just earned his qual and was shook up over the whole deal. He apologized to me. I told him everything was OK and made sure the lessons learned were clear.

When aircrew enter the jet, the first thing they should do is check to make sure the internal canopy handles are pinned. All I needed to do was take a quick glance at the canopy handle to make sure it was pinned, but I was too hurried and busy.

The external handles for operating the canopies on the EA-6B are on the port side of the jet. You cannot see if anyone is on the starboard side unless you walk over there to check or have another person positioned on the starboard side to confirm it is safe to close the canopy. Any non-verbal communications must be standard and unambiguous.

When opening canopies, plane captains are trained to immediately pin the canopy handles on the inside of the jet. This way the canopies remain open even if you try to close them using the external handles.

Being in a hurry on the flight deck is a good way to get yourself killed. Do things right the first time, and you'll minimize your risks in a very risky business.

LCdr. Elstad flies with VAQ-130.

Saved by a Good

by Lt. Stephen Ures

In the lore of naval aviation, the only two things a good wingman should ever say are, "Two," and "Sir, you're on fire!" The qualities of a good wingman are taught from day one, and the importance of good wing-manship is emphasized in everything we do.

It was the winter of 2000, and we were well into work-ups for a WestPac cruise that would start that summer. As a nugget with four months in the squadron, I suddenly was flying some very complex training missions, using many F-14D systems for the first time.

We were flying a division low-level ingress at 500 feet through North Carolina, using a battle-box formation. The plan was to pop to a medium altitude in the Navy Dare Target Area and deliver our Mk-76 practice bombs by section. I was flying as Dash 2 with a weapons-school instructor in the backseat. We were well into the route at 480 knots when the start-valve light came on, indicating the starter was engaged. We climbed to troubleshoot. While I checked to make sure the engine-crank switch was off, my RIO broke out the pocket checklist. He read through the section about start-valve lights but only found procedures that were associated with an actual engine start. We elected to pull the start-valve circuit breaker, which extinguished the light, and continued with the flight.

About five minutes later, after I did some simulated SAM-defense maneuvers, the right throttle seized at mil. The engine instruments flashed, then went to zero. That did it for me, as I told my lead, "Dash 2's aborting with a stuck throttle." Without hesitation, he came off the route with me and instructed Dash 3 and 4 to continue. We both climbed and pointed toward NAS Oceana. After getting well away from the ground, I managed to force the right throttle back to idle. There were no engine indications, and my lead, who had now become my wingman, noticed the right nozzle oscillating.

So far, my limited intelligence had not singled out any procedure to follow. Fortunately, my wingman was close. I'm told that fire coming out of the daily door of an F-14D doesn't really look like fire, but what came out next probably saved our aircraft.

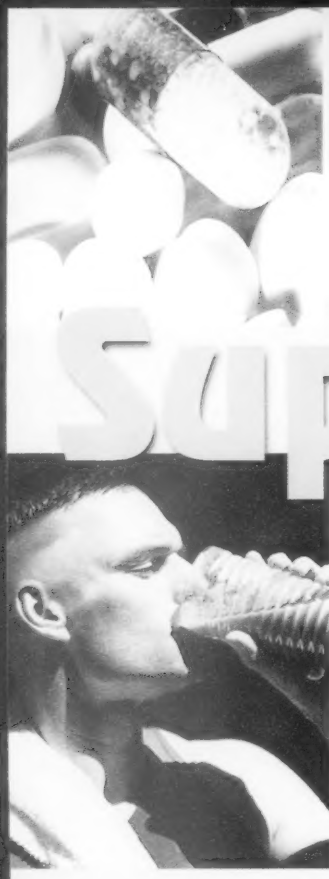
"You're on fire; do your procedures, now!" he yelled. That made things simple. We executed the engine-fire procedures, deployed the emergency fire extinguisher, and continued on for an arrested landing at Oceana.

It turned out that the starter actually had engaged, receiving high-pressure air from the engine well in excess of its operating limits. It then exploded, blowing a two-foot-square hole in the daily door, severing the lines for throttle control and the engine instruments. The fire never migrated high enough in the engine compartment to trigger a fire light. By the time we'd have figured out we were on fire, the damage could have been catastrophic.

My wingman provided the information at a critical moment, and his unhesitating decision to stay with me was the one that saved my aircraft. My lesson? Never, sacrifice section integrity, because there are just too many ways a good wingman can save your butt.

Lt. Ures flies with VF-31.

Photo composite by Yvonne Dawson



A Serious Supplement

by Ltjg. Jeff Repass and HM3 Joseph Entrekin

On the morning of Dec. 20, 2000, a Marine Corps corporal panicked and began sinking during a 75-yard survival swim while wearing flight gear. This is a common occurrence at Aviation Survival Training Center Cherry Point, especially during Initial Water Survival Training class. One of our Navy swimmers brought the floundering corporal to poolside, where we asked him to get out of the pool and sit until the end of the training.

After a few minutes, the corporal said he felt nauseated. A corpsman checked him out, found his pulse and blood pressure to be excessively high, and referred him to the base hospital. A doctor diagnosed the corporal with tachycardia, which resulted from ingesting a dietary supplement called Hydroxycut (the corporal was a regular user).

An informal poll reported in the Jan. 18, 2001, issue of *The Windsock* (published here at MCAS Cherry Point) suggested that approximately half of all Marine Corps personnel use some kind of dietary supplement.

Hydroxycut is the brand name of a "performance enhancer" that contains ephedra (also called MaHuang) as one of its main ingredients. Supplements in this class are commonly called thermogenics, and they include such brand names as Ripped Fuel, GNC Herbal Rush, Diet-Phen, Metabolift, Met-Rx, and others. Thermogenics are meant to increase metabolism and burn fat.

Ephedra mimics the effects of hormones like epinephrine (adrenaline) and norepinephrine. The problem is that ephedra doesn't just stimulate fat-burning processes; it also affects the lungs, heart, blood vessels, glands, and the central nervous system, and the effects can be harmful. The FDA has received more than 1,200 complaints from ephedra users who report elevated blood pressure, heart palpitations, anxiety, insomnia, dehydration, and headache. In severe cases, users have suffered strokes and heart attacks. Some have died.

The active ingredient in ephedra is the chemical ephedrine, which can be converted into the street drug methamphetamine. Ephedrine sales have been banned in 16 states. Ephedrine is considered a banned substance by the International Olympic Committee, the United States Olympic Committee, and the National Collegiate Athletic Association.

Other diet and performance supplements pose problems, as well. According to the cover story in the Feb. 12, 2001, issue of *U.S. News & World Report*, "Ephedra supplements are raising the greatest worry in the medical community right now, but other natural remedies also concern scientists." Most popular among these other supplements are creatine, androstenedione, St. John's Wort, ginkgo, and ginseng.

People take creatine to increase energy output, but scientists have failed to demonstrate that creatine actually improves performance. They have found that it can cause diarrhea, muscle cramps, nausea, dizziness, and a variety of allergic reactions.

Hazard

Androstenedione, a natural alternative to anabolic steroids, claims to enhance strength and may increase testosterone levels. These claims have not been validated, but androstenedione does have potentially severe and permanent effects, even from short-term use. Side effects include acne, impotence, and tumors in the liver and other organs.

People take St. John's Wort as an antidepressant. It can cause prolonged bleeding and has many active components with unknown, adverse effects. Ginkgo is reputed to enhance memory and affects how your body secretes insulin. Ginseng can reduce blood sugar among diabetics, and nearly half of all ginseng product samples tested by ConsumerLab.com were found to contain high levels of toxic pesticides or lead.

NATOPS has guidelines for drug use by personnel in flight and support status. It defines "drugs" as "any chemical that, when taken into the body, causes a physiological response." NATOPS has a broad range of rules about drug use, ranging from the obvious prohibition of illicit drugs to guidance on daily use of tobacco and caffeine products. It doesn't specifically refer to dietary supplements, but dietary supplements are drugs.

BUMED addressed the issue of dietary supplements, flight personnel and NATOPS requirements in a January 1999 message, which said, in part, "BUMED has not approved the use of dietary supplements and herbal medicines in aircrew members. Flight surgeons should not approve these substances for anyone on flight status until more information is available."

Which brings us back to our local swimming pool. Water-survival training gives pilots and aircrew the knowledge and skills to survive in worst-case scenarios. When you ditch or eject, you have to stay calm and in control of your mind and body if you want to survive. The young corporal whom we pulled from the pool was neither of these things. We wondered if his loss of control and panic was due, at least in part, to the effects of his dietary supplement. This question deserves serious consideration. During survival training, instructors always can remove students if they are not faring well. During real life, instructors will be far away.

[1]NATOPS 3710.7 R 8.3.2.5

Ltjg. Repass and HM3 Entrekin work at Aviation Survival Training Center, Cherry Point, NC.

Oil Pressure Where?

by Lt. Sean Polete

We were a quarter of the way through my first WestPac and just out of the great port of Perth, Australia. The tempo of flight operations was turning out to be somewhat less than I had hoped. Most pilots were flying once a day, with two days off every week. Our surface reconnaissance and recovery tanker flights, and the flight briefs, were becoming routine.

After an abbreviated flight brief, my COTAC and I talked about the "detect to engage" exercise we were doing with the battle group's cruiser. The exercise required us to climb to FL300 and proceed inbound from 80 miles at 450 knots. The most important goal for that day was getting in a good position overhead to see the Tomcat we were scheduled to tank, after he completed his supersonic run on the cruiser. After startup, plane-captain checks, and a look at the engine instruments in tension, we were off cat 3 and returned overhead for the Tomcat's mach run.

We checked our aerial-refueling store and were directed to proceed outbound while awaiting clearance for our inbound run on the cruiser. As we passed 15,000 feet, the master caution and APU bleed-leak lights illuminated (aircraft 704 had an outstanding gripe that the APU bleed-leak light illuminated with the APU secured). The TACCO broke out the emergency-procedures checklist. We secured our No. 1 bleed-air switch and checked cabin pressure. The lights went out within one minute as expected. While minor, this malfunction would play an important role later.

We continued our climb to FL300. I donned my O_2 mask as a precaution because of our altitude, and it reminded me of my training command days. Besides, with only one bleed-air source operating, anything could happen to cabin pressure at a moment's notice.

After another 15 minutes, we were outbound, and I again checked engine instruments. "Hey, the No. 2 oil pressure is not supposed to be jumping around like that, is it?" I asked. This got my COTAC's attention as I pulled the No. 2 throttle from full power to idle. Since we were operating over blue water with no divert available, we leveled off and turned back toward the boat. The TACCO, again with the pocket checklist in hand, reviewed engine-oil-pressure limits at idle. The needle was rock steady at the upper limit. In the back of my mind, I was contemplating how long we would have to wait for the fluctuations to cease and whether we would be forced to secure the engine. Not wanting my senior COTAC to

think I was too quick on the draw, I wondered aloud whether to shut down the engine. After all, the S-3 flies just fine single-engine. After consulting my crew and checking the gauges for secondaries, our COTAC notified tower of our situation.

After the No. 2 engine had idled for five minutes, the oil pressure started fluctuating again, but now with decreasing pressure. Scope-locked on the oil-pressure gauge, I called for a precautionary-engine shutdown. My seasoned crew suggested I descend below 10,000 feet prior to securing the engine (our only other bleed-air source for cabin pressurization). In retrospect, this was a great decision that probably avoided complicating our situation for several reasons—not the least of which was that we were at 24,000 feet. Without cabin pressure or supplemental O_2, a crew member only would have about four minutes of useful consciousness. Also, my COTAC had a little sinus congestion the week before. Although he was med up, a drop in cabin pressurization might have caused him severe pain if he had still had any sinus blockage.

As we started our descent to 10,000 feet, tower informed us that we would have a ready deck upon arrival. Still descending, we positioned ourselves 10 miles aft of the ship. Once we got below 10,000 feet, we started the precautionary engine-shutdown checklist to secure the No. 2 engine. Having already flown an actual single-engine approach to the boat during work-ups, I was comfortable briefing contingencies for our approach. We continued our descent through 5,000 feet, heading aft of the boat for a 10 miles straight-in at 1,200 feet. This would give us time to consider and review our situation and the aircraft's condition.

Weather conditions were good: a typical day near the equator; clear, temperatures in the mid-90s, calm winds and seas. Dependent on our aircraft weight, our waveoff performance would be less than we were used to in the more temperate climate of San Diego. We were already below our max trap weight, but we decided to dump an additional 3,000 pounds of fuel to improve our climb rate in the event of a waveoff. We put the aircraft in the landing configuration and did controllability checks. With the flaps in the takeoff position, gear down, and trimmed on speed, my crew reviewed what to expect on a waveoff or bolter. As power on the good engine came up, yaw would have to be countered with rudder into the good engine. I would set the proper attitude to track straight up the landing area.

With good crew coordination and 30 knots straight down the angle, I flew an OK pass to the 2-wire.

Even after two single-engine traps and with "salt crust" beginning to form, I reaffirmed that every naval aviator always must consider the big picture. What could have been done better? In an effort to save an engine, I may have been too quick in securing it. Starting our descent earlier could have shortened the time we had let a low-oil-pressure engine run.

Lt. Polete flies with VS-38.

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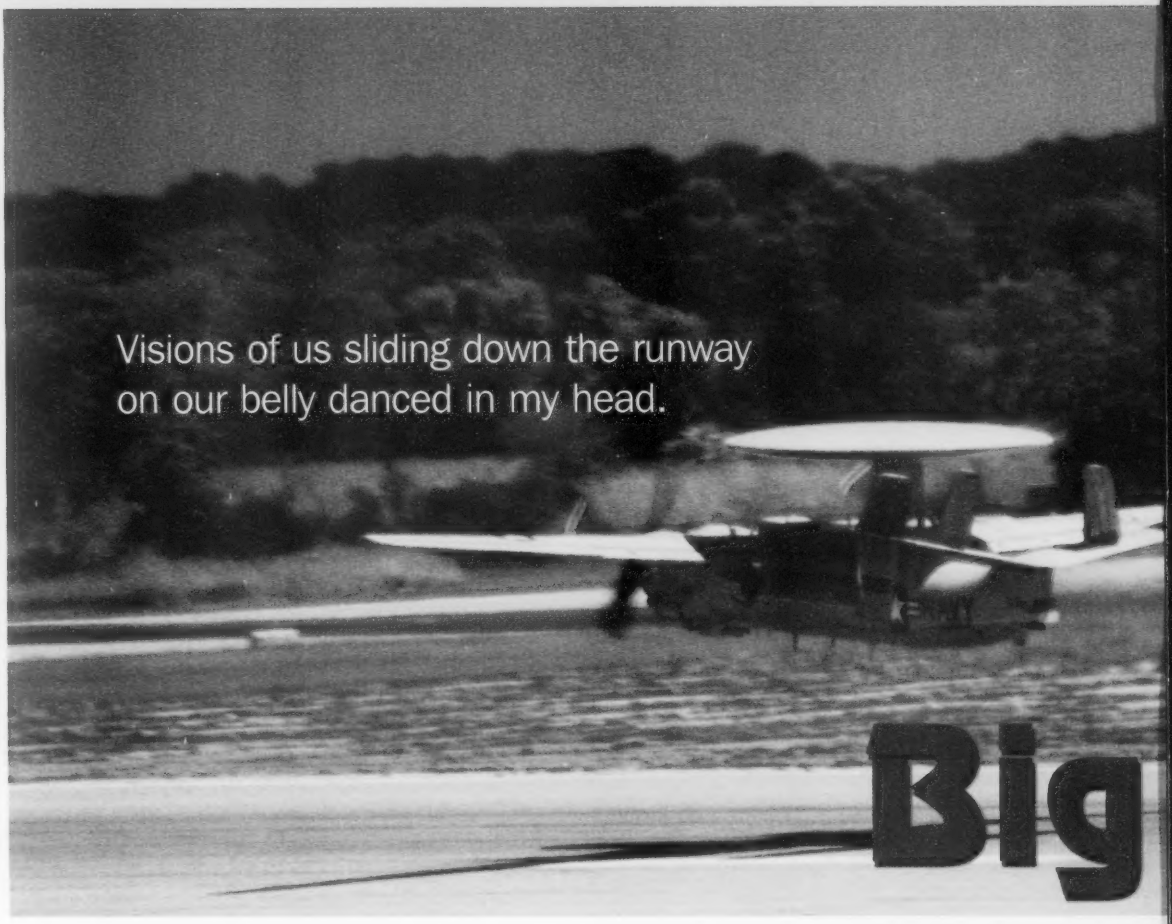


Visions of us sliding down the runway on our belly danced in my head.

Big

by Lt. Teague Swalm

We were out for a leisurely two-hour flight. I was getting my annual instrument check along with a bit of proficiency flying. It was one of those days when Mother Nature couldn't make up her mind. We flew in and out of broken layers on multiple trips around the GCA box. We would have liked more pure instrument work, but all in all, a good day to fly.

We were on our fourth GCA, practicing a dual emergency: a no-gyro approach and a pitchlock on the port engine. The prop portion of the emergency simulated a power setting for which NATOPS recommends landing with the engine on-line. This, in conjunction with the required descent as we turned dog-leg to final, kept the aircraft just outside the limits of a configuration change until three miles from touchdown. With some out-of-balance flying, we managed to slow ourselves sufficiently, and I reached for the gear handle. I called, "Gear speed," tugged on the handle, and, much to my disbelief, nothing happened. I gave another little pull, and again, nothing. My immediate response was to check between my ears for some forgotten big-ticket item when lowering the handle. Could it have been a locking spivot, a portable flamph, or a diverging sfetser valve? It had to be something I had done on so many other occasions when I dropped the gear. I couldn't figure out why it wasn't working. The handle, and hence the gear, weren't moving –so much for a relaxing evening.

The controller repeated his request: "Three down and locked?"

"Knock it off," I called throughout the aircraft and then told approach that things were rotten in Denmark. We now were reaching tower's airspace, so we told them of our predicament. Not wanting to say the "E" word

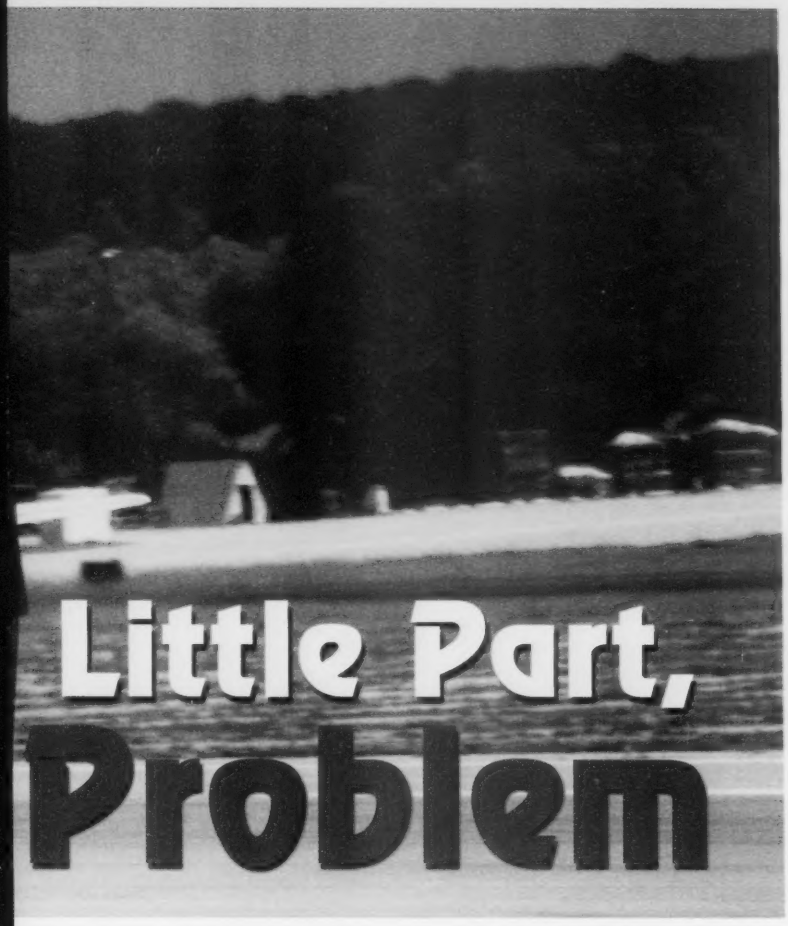


Photo by Matthew Thomas

Little Part, Problem

and have a flood of help, we simply stated that we required an overhead delta to troubleshoot a slight mechanical malfunction.

Visions of us sliding down the runway on our belly danced in my head. We broke out the big blue NATOPS, dialed up maintenance on a back radio, and with half-dozen airframers, set about finding a solution and coming home without incident. Through the pages of our PCLs, maintenance manuals, systems chapters, and the cobwebs of our minds, we searched for information that would settle our stomachs, but to no avail. NATOPS doesn't address this situation. What we needed was a competent mech and bag of tools to provide some hands-on help. What we tried was a few well-placed whacks, but the handle would not move. It was time to delve into uncharted territory: the workings of the handle itself.

One thing that did emerge quickly was that we might still have a usable emergency-blowdown system. Even though the main-gear handle was unmovable, the emergency handle was free and seemed to work as advertised. Still, there was no way of knowing whether the same jam that prevented normal operation might inhibit emergency ops, and since the system is a one-time, all-or-nothing process, we didn't want to place all our eggs in that basket just yet. Back to the main handle we went.

The Hawkeye has rubber buffers in the track which protect the gear handle from FOD. Unfortunately, these buffers also prevent putting eyeballs on the working mechanism of the handle. After minor surgery with my trusty knife, we finally got a visual on our nemesis. The trigger that prevents inadvertent lowering of the handle had broken off within the handle itself, preventing release of a spring-loaded latch, and hence the gear. Now things were looking up. Everyone at maintenance control listened as we passed, "Stand by, we may have a solution." We scoured the aircraft for something to gain some leverage. We settled on the male end of a grounding wire, tucked snugly within the ground-lock bag. I pried the latch, unlocked the handle, and, to everyone's relief, reported three down and locked.

Upon shutdown we were met by many an interested squadronmate. The piece that had failed is no bigger than a dime and simply failed due to fatigue. Upon inspection, the emergency system should still have been operational had we decided to play that card.

Lt. Swalm flies with VAW-115.

BRAVO Zulu

Ltjg. Manuel Biascoechea
Maj. Mark Nelson, USMC

While flying a low-level training sortie, the crew of the fleet replacement squadron aircraft 557 had a catastrophic failure of the left flaperon actuator. The pilot lost all lateral control. Assessing the situation, he applied full left rudder to upright the aircraft at 1,500 feet and climbed away from the deck. Once at altitude, the aircrew made controllability checks in the dirty configuration, and the crew set up for a 30-mile dogleg-left approach to runway 21 right at Yuma, Arizona. Flying the approach without lateral stick input and with the aircraft continually rolling to the right, Maj. Nelson used full left rudder and differential thrust to make an arrested landing. This was the second such failure in the history of the Prowler and could easily have resulted in a Class A mishap.

VT-6

Ltjg. Billy Clark, USCG
Lt. Melissa Williams

The crew of 6E645 launched from North Whiting Field on a day, VFR, student-training flight. After the pilot retracted the gear, the aircrew heard a loud noise. Lt. Williams, who was the instructor pilot (IP), took the controls from Ltjg. Clark, and climbed into the emergency-orbit pattern. With gear indicating unsafe, the aircrew opened their NATOPS pocket checklists and did the emergency procedures for manually extending the landing gear. The left gear continued to indicate an unsafe, gear-in-transit condition.

After hearing of the gear problem with 6E645, Lieutenants Baldwin and Hatton were launched in another T-34 to look at the gear. They reported the left main gear was canted 45 degrees inboard. Following 30 minutes of unsuccessful troubleshooting, Lt. Baldwin returned to base to pick up Ken Erickson, a Raytheon QA representative. After another 90 minutes of troubleshooting, and with the left gear still stuck at 45 degrees, the crew of 6E645, along with maintainers, made an innovative decision. To minimize risk to the crew and to reduce damage to the aircraft, they elected to hand crank the gear into an intermediate position.

Lt. Williams, flying from the rear cockpit, and Ltjg. Clark landed the aircraft almost three-and-one- half hours after takeoff.

Post-flight inspection revealed a damaged shear pin in the left main-gear assembly and a damaged left main-landing-gear rod.

Cdr. Thomas Horgan
AD2 Shelley Gehrki
Col. David Darrah

While transporting four passengers from Langley AFB in Hampton, Va., to Davison Army Airfield, just outside of Washington, D.C., the crew of a Navy UC-12B noticed an unusual sound while lowering the landing gear on final approach. The pilot at the controls, Cdr. Thomas Horgan, who has 3,000 hours in the King Air, promptly diagnosed a nose-gear chain malfunction, which was immediately confirmed by an accompanying unsafe nose-landing-gear indication. Cdr. Horgan requested the delta pattern at Davison and Col. David Darrah, his copilot, broke out the NATOPS to the landing-gear-emergency section. AD2 Shelley Gehrki, the transport aircrewman, briefed the passengers on the situation as well as crash-landing and emergency-egress procedures.

In-depth troubleshooting procedures were discussed by the crew, maintenance (both at Davison and Andrews), and home-base personnel 160 miles away in Norfolk, Va., using Col. Darrah's cell phone. The crew performed the procedures from NATOPS, including an attempt to manually pump the gear down, applying positive G loading to the aircraft, and opening floor boards to gain access to the landing-gear system—all to no avail. After reviewing several options, Cdr. Horgan elected to diverted to Andrews AFB, because the runway was longer (9,300 feet versus 5,500 feet at Davison) and because of the parallel runways. With priority handling from Washington Approach to Andrews AFB, Cdr. Horgan coordinated with tower control to intercept an extended final for runway 19R, after orbiting to reduce their fuel load.

Cdr. Horgan told Col. Darrah to secure the engines immediately upon touchdown, by moving both condition levers to fuel cutoff and both propeller levers to feather. Cdr. Horgan then would close both firewall-shutoff valves and continue to fly the aircraft to a complete stop while Col. Darrah would secure all electrical power with the gang bar. Approach flaps were selected, and AD2 Gehrki removed and stowed the emergency-escape hatch as Cdr. Horgan maneuvered to execute a shallow, 110-to-120-knot approach, touching down on the main gear while holding the nose up.

As Col. Darrah secured the engines and feathered the propellers, the aircraft momentarily became airborne because of the reduced drag. Cdr. Horgan continued to fly the aircraft, tracked down centerline, and gently eased the aircraft back to the runway. Before elevator control was lost, Cdr. Horgan lowered the nose down to the runway. The aircraft skidded down the runway for 1,200 feet before stopping on centerline with 2,500 feet of runway remaining. The passengers and crew egressed the aircraft using the over-wing emergency-escape exit. No one was injured.

An inspection of the aircraft revealed that the nose-gear duplex chain, which moves the nose gear up and down, had failed. With this failure, any normal or alternate attempts to raise or lower the nose landing gear are impossible.

Riding

by Capt. Kevin Mulligan, USMC

It was a cold December day, and our squadron was winding up a 10-day Supporting Arms Training Exercise (SATEx) at Bogue Marine Corps Auxiliary Landing Field, N.C. We had endured the winter chill in the meat-locker-cold K-Spans, and we were ready to go anywhere warm.

When the operations officer threw the cross-country idea on the table, the single aviators were all over it. Leaving Bogue Field early on a Friday afternoon, our plan was to complete one of the final SATEx events and then fly into MCAS Cherry Point for the night. In the morning, we would continue to balmy Key West, Fla. Our Hornets were tired from the heavy operational tempo of the last 10 days; however, we had faith they had enough in them for the weekend plan.

After working off of a 4,000-foot metal-matted strip at Bogue Field, an 8,000-foot runway at MCAS Cherry Point was a welcome sight. Every landing for the past 10 days had been a field arrestment. Because of this, we hadn't had to use the anti-skid system. The squadron also had used hook points at a rate that would raise eyebrows at most FA-18D squadrons. The runways at MCAS Cherry Point, fortunately, were different.

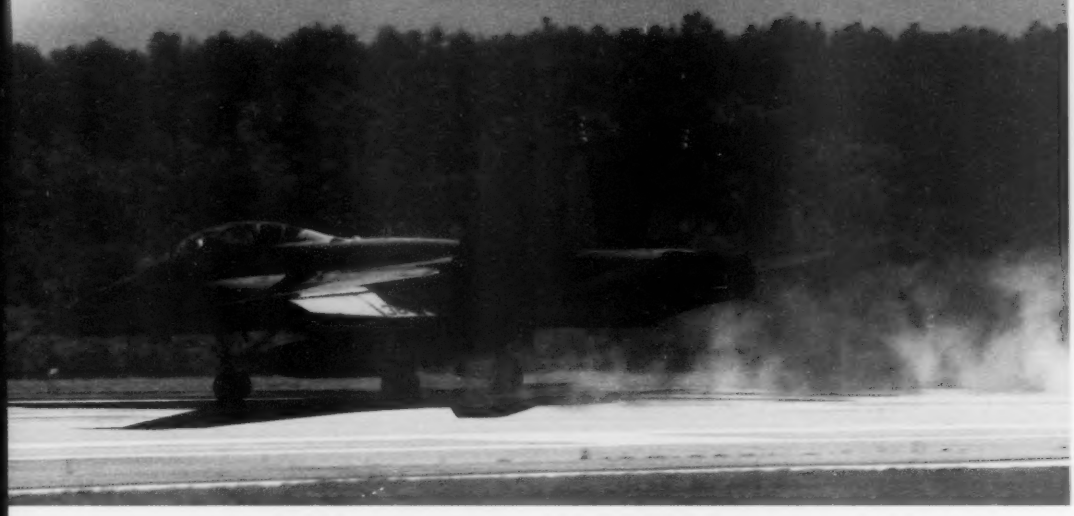
The clear, cold, dry day was perfect for flying, and I had taken off from Bogue Field with minimal ground roll. I came into the overhead at MCAS Cherry Point as Dash 2, in a flight of two. The first phase of the weekend went as briefed, but that reality changed rapidly.

Everything looked normal during the landing checks, and the slight right-to-left crosswind was of little concern. Lead landed easily, as my WSO and I rolled into the groove. Though I still flew the ball down to the in-close position, it was nice to be able to add the extra power, flare, and settle the jet onto the runway. As we continued our landing rollout, lead offset to the right side of the runway, allowing me the left side in case I needed to go around.

The jet was decelerating nicely as it rolled up the slightly uphill grade. At 100 knots, I checked the brakes. I was surprised to have the brake pedals go all the way to the deck. At 95 knots, I again checked the brakes, with the same result. The throttles were at idle, the speed brake was extended, and I had programmed the stick full aft. Though the jet was continuing to decelerate, I had no way to slow it with normal braking. The active runway at MCAS Cherry Point did not have any long-field-arresting gear rigged. With the line boards steadily clicking down, I was rapidly running out of real estate. With the bold face for a brake failure racing through my brain, I decided to use the emergency brakes to keep the aircraft on the runway.

Checking my hydraulic and brake pressure gauges, I saw the systems were operating normally. Pulling my feet clear of the rudder pedals, I pulled the emergency-brake handle to the detent, said a quick prayer, and tried one smooth application of the brakes. Somewhere in the application, the left main mount locked, bulls-eyed, and blew out. Steering was never an issue, and the airspeed continued to decelerate to below line speed. Rolling straight ahead, we cleared the runway

on the Rim



onto the mid-field ramp. I brought the jet to a stop and awaited the field's ground support.

Although I had seen brake failures in the simulator, I never had experienced one in the jet. In realty, the indications were identical to those in the simulator, and that practice aided my analysis of the situation. But I still felt that my reaction to the brake failure was delayed. I had never had the brakes do anything but work as advertised.

As I was processing the information, the jet had been decelerating and rolling toward the end of the runway. Treating the brake failure like an aborted takeoff roll, I had not wanted to change my course of action and aggravate the situation. Having committed to keeping the jet on deck, I had performed the boldface steps for a brake failure. If the emergency brakes hadn't worked, I would not have had enough runway remaining to add power and get off the deck.

The only damage to the aircraft was the blown tire. The maintainers found a faulty valve, which had caused the anti-skid system to fail. Since we had been working out of Bogue Field, and had been taking arrested landings every time, the anti-skid system had not been used for days. Therefore, we were not sure how long the problem had existed.

Since that experience, I have begun to test the brakes at a higher airspeed (closer to 130 knots instead of 100 knots). Testing the brakes early does two things for the aircrew. First, it tells the pilot the status of his brakes sooner, giving him time to decide if he should keep the jet on deck or take it around. Second, it gives the engine more time to spool up, if required, so you can take off and go around.

Capt. Mulligan flies with VMFA-332.

Bound for Greenland

by LCdr. Philip Gerard

We were sitting in our dry suits at base operations in Keflavik, Iceland, waiting to see if the forecaster had some good news for us. This was the second day of a four-day return trip from Great Britain to California, and we were looking to get home in time to attend our annual community gala. Just 10 days earlier we had flown our E-2C, housing the latest avionics upgrade, to England, to participate in the world-renowned Farnborough International Air Show. I was trying not to reminisce about the awesome time the five of us just had as I weighed our options for our flight to Greenland. I was hoping for "ceiling and visibility unrestricted," but that was not the case.

Sondre Stromfjord airfield did not have instrument approaches compatible with our aircraft avionics. We can come aboard a pitching deck at sea in the worst weather, but if an airfield does not have a TACAN or ground-control-approach capabilities, we are limited to visual approaches and must abide by NATOPS weather-alternate criteria. I would have given up all the fancy new equipment in the back of the airplane for a VOR or just a lowly NDB.

The previous day we had left England, refueled in Scotland, jury-rigged the transient-line support equipment to start the plane, and then made an uneventful trip over the North Sea to Iceland. All we thought about was getting some dinner and finding a place to relax before our long trip across the Atlantic Ocean the next day. Over a game of pool, we discussed when we should resume our journey. During our debate, I called weather; the news was not good. A front was moving toward Greenland, bringing in clouds and high winds. Worst of all, the condition was deteriorating. Well, that ended our discussion. We headed back to the BOQ for some sleep and prepared for an early start.

Our first stop the next day was the weather office. The forecaster produced a "dash one" that indicated marginal VFR conditions at our destination. This weather was nowhere near the sunny California conditions I was accustomed to. Furthermore, the forecaster in Greenland had not yet wakened and the forecast was eight hours old. The Navy forecaster at Keflavik told us he would call Greenland and get an updated forecast as soon as possible. We set off to file and hoped an updated forecast would make our decision easier. Do we press with our trip and beat the weather in Greenland, or wait and possibly spend three more days in Iceland waiting for CAVU conditions?

All eyes were on me, as the aircraft commander, to make the final decision. I needed more information. I developed a plan after several calls to the forecaster and an expensive long distance call to the ATC controllers in Greenland to ascertain their radar-vectoring capabilities. The weather was good enough for a visual approach, but, if it got any worse, we would have to create our own instrument approach. Our plan was simple: get airborne, keep in touch with Keflavik Metro for as long as possible, get weather updates often, and decide whether to continue before marching to the point of no return. If there were any indications the weather was getting worse, we would turn back.

We launched still wearing our uncomfortable dry suits and ready to execute our plan. The first part of the trip was benign. The weather in Iceland was beautiful and continued to stay that way until

we made landfall on the eastern coast of Greenland. We had seen the approaching clouds and continued to get weather updates. There was no change in the current observation or forecast. I was hoping for better news as we approached the turnaround point, but that didn't happen. Legally, we could continue, but the hairs on the back of my neck started to rise. I would have no problem getting in with the current weather, but, if it suddenly turned worse, I would find myself at a field with no alternates and no compatible instrument approach. How hard should we press? Was I getting a case of get-home-itis? We decided to continue, and there was no turning back.

Throughout the rest of the flight, we discussed possible "what if" scenarios. I have never checked the navigation so intensely. We pulled out all the charts, studied the terrain and talked about the visual cues we would see based on our first visit to this barren island just 10 days ago. Should the need arise, I had set up the system for self-contained GPS approach.

As we continued west, the weather at altitude worsened. We were in a solid layer and picking up icing. With all the anti-ice and de-ice equipment on, we still had a slight layer of ice on the leading edges and propeller spinner. Communications with the controllers were intermittent, and I knew we were the only ones flying over Greenland at that time. I started to doubt my decision. Were the current conditions an indication of things to come?

As we approached the end of the flight, we finally were talking to approach control. The current weather was as forecasted, and we finally broke out of the clouds at 7,000 feet with a scattered layer at 4,000 feet. Approach control vectored us to the initial approach fix, and we descended to the minimum-vectoring altitude. We were tracking our position on the chart, based on the terrain below, but the field was not in sight. Clouds obscured our view. We were in VMC and about to turn to final using our GPS. I knew we could cancel IFR, continue VFR, and position the aircraft to land. As luck would have it, we turned final, and there was a perfect hole between the runway and us. We were safely on deck in minutes, paid the exorbitant transient service fees, took off for Canada, and eventually spent the night at NAS Brunswick, Maine.

Over an enormous lobster dinner, we discussed the day's events and the decisions we made. In our rush to get home as scheduled, we assumed more risk. Though the forecast weather made our flight legal, conditions could have deteriorated, leaving us with two options; land at Sondre Strom or bail out over frozen tundra. This flight taught me the true meaning of "get-home-itis." The easiest thing we could have done was to bed down in Iceland for three days. But being naval aviators, we tend not to settle for the easy way out when there is a mission to accomplish, even if it is just going home. Aircraft commanders are charged with safety of flight. I learned more about this responsibility on this one flight than during my previous 12 years of flying.

LCdr. Gerard flies with VAW-117.

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LCdr. Gerard flies with VAW-117.

Learning From That Never Fle

by Lt. Daniel Mosiychuk

As a student ECMO, I participated in an FRS detachment to NAF El Centro. The detachments are held at El Centro during the winter months because the weather is better than in Whidbey Island, Wash. The pace is fast, compared to training at home: Students fly up to two sorties a day for two weeks. Compared to all the flights I completed, I learned the most from a flight that I never flew.

One morning, I was scheduled for my first form flight in the Prowler. I arrived early to set up the board for our brief. The pilot of Dash 2, also a student, walked into another briefing room and, to save time, copied down another crew's takeoff and abort numbers and put them on our board. Absorbed in my own preparations, I didn't bother to check the numbers.

My pilot and I were lead, and Dash 2 was the student pilot with an instructor ECMO. We briefed a 10-second-go departure, meaning Dash 2 would line up on the runway with us but would begin their takeoff roll 10 seconds after our roll. If the lead was forced to abort, Dash 2 would abort as well. The lead aircraft would pass up the long-field arresting gear unless Dash 2 cleared us for it.

I called for takeoff, and both jets took the runway. When we were cleared for takeoff, we did our standard run-up and wipe-out. Everything looked good, so off we went. The

initial acceleration seemed slow, but since it was much hotter here in El Centro than what I was used to back home, I didn't give it further thought. My pilot commented, "Good line speed" when we passed our 2,000-foot acceleration check.

We passed 100 knots and entered the high-speed abort regime. At 125 to130 knots, I remember the pilot said, "Seems a little slow, but we'll take it." As if on cue, there was an almost imperceptible chug from the left engine, and the pilot said, "Oh, wait." I scanned the instruments and noticed the tapes for the left engine were wavering up and down. We began our abort at 135 knots. The pilot brought the throttles to idle and extended the speed brakes. I called the tower, reached for the hook release handle, and waited for the call from Dash 2 clearing us for the long-field gear. Passing through 80 knots, the pilot applied wheel brakes, and Dash 2 cleared us for the gear. I asked the pilot if he wanted me to pull the hook. He said, "No," and I took my hand away from the hook release. Almost immediately after he declined, the pilot reached up and pulled the hook, and we engaged the arresting gear.

We sat in the wire as the emergency vehicles approached. They checked our brakes, and we shut down the engines after the brakes cooled. We had fused both brakes and had blown both main mounts. Dash 2 had aborted at 100 knots, and the pilot was able to slow the aircraft enough to pull off the runway onto a taxiway. His price was two fused brakes and a blown main mount.

During the debrief we divided our lessons into the standard two columns, things we did that were good and those that were not good (or "others," as we call them). In the first column, my confirmation with the pilot prior to pulling the hook was good crew coordination; nosewheel steering would have engaged when I pulled the hook, surprising the pilot. The remaining two lessons fell into the "others" column. First, "Oh, wait," is not a very descriptive phrase. It did not convey to me or to the aft cockpit that the pilot had heard a chug, had seen some strange instrument readings, and had decided to abort for an impending engine failure. Although the mind races during an emergency situation, we all have important tasks to accomplish, so it is necessary to get the word out fast. Second, and most important, borrowing takeoff numbers is an unnecessary risk. I trusted my life and the life of my crew to takeoff numbers from a different flight. If I had spent a few minutes in the book prior to the brief, I would have realized during the takeoff roll that we had failed our line-speed check. We would have aborted at a relatively low speed, long before the chug notified us of our engine trouble.

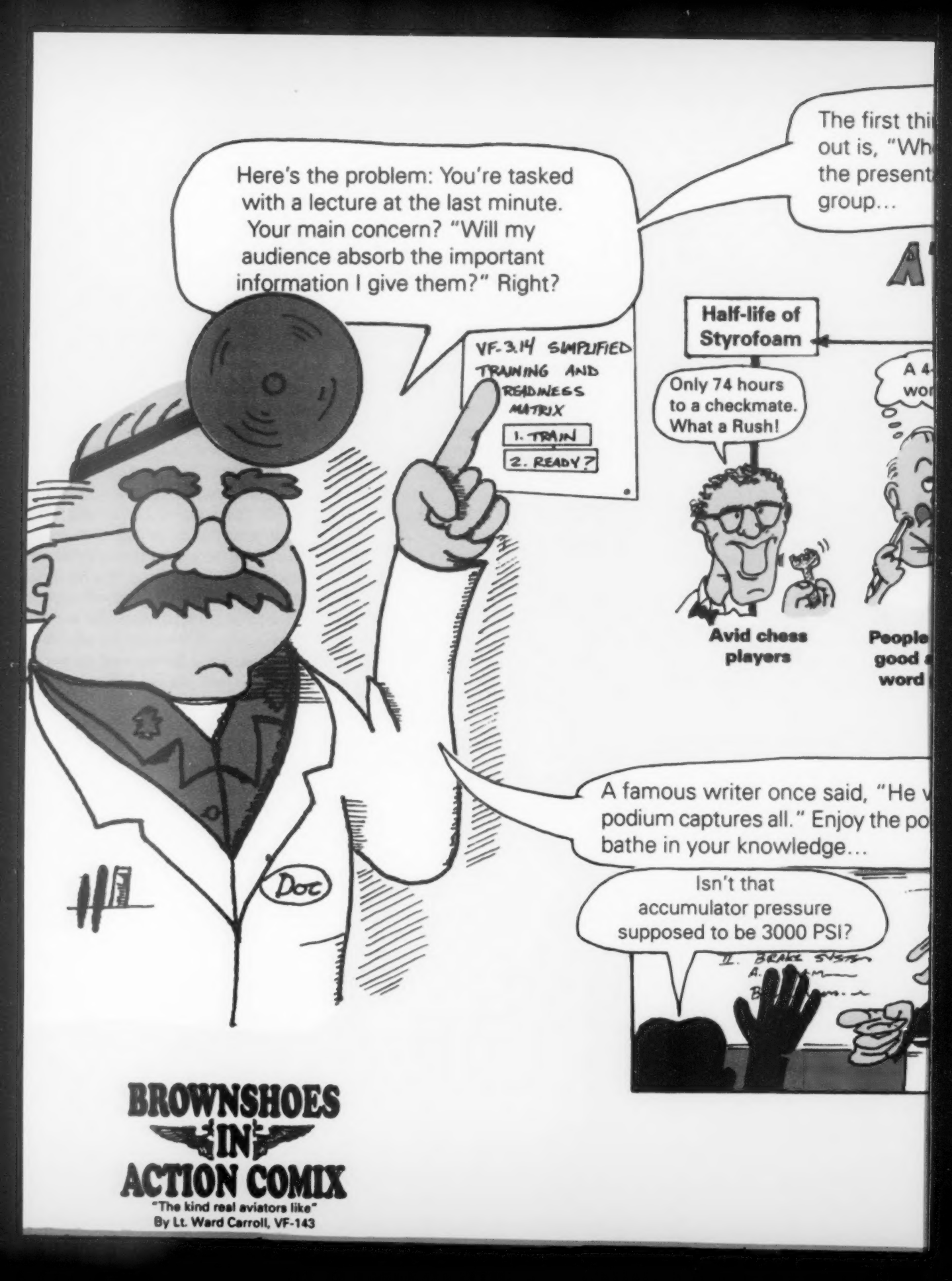
It's interesting how much you can learn from a flight that never flew.

Lt. Mosiychuk flies with VAQ-142.

a Flight

w

Photo by Senior Airman Stan Parker


Here's the problem: You're tasked with a lecture at the last minute. Your main concern? "Will my audience absorb the important information I give them?" Right?
VF-3.14 SIMPLIFIED TRAINING AND READINESS MATRIX
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Half-life of Styrofoam
Only 74 hours to a checkmate. What a Rush!
Avid chess players
A famous writer once said, "He
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Isn't that accumulator pressure supposed to be 3000 PSI?
BROWNSHOES IN ACTION COMIX
"The kind real aviators like"
By Lt. Ward Carroll, VF-143

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Professional athletes

A group of small, hyperactive children

News reporters

Naval aviation's finest

who dominates the
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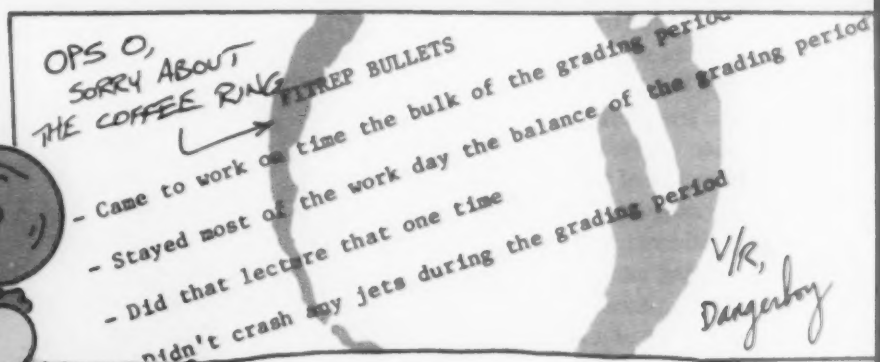
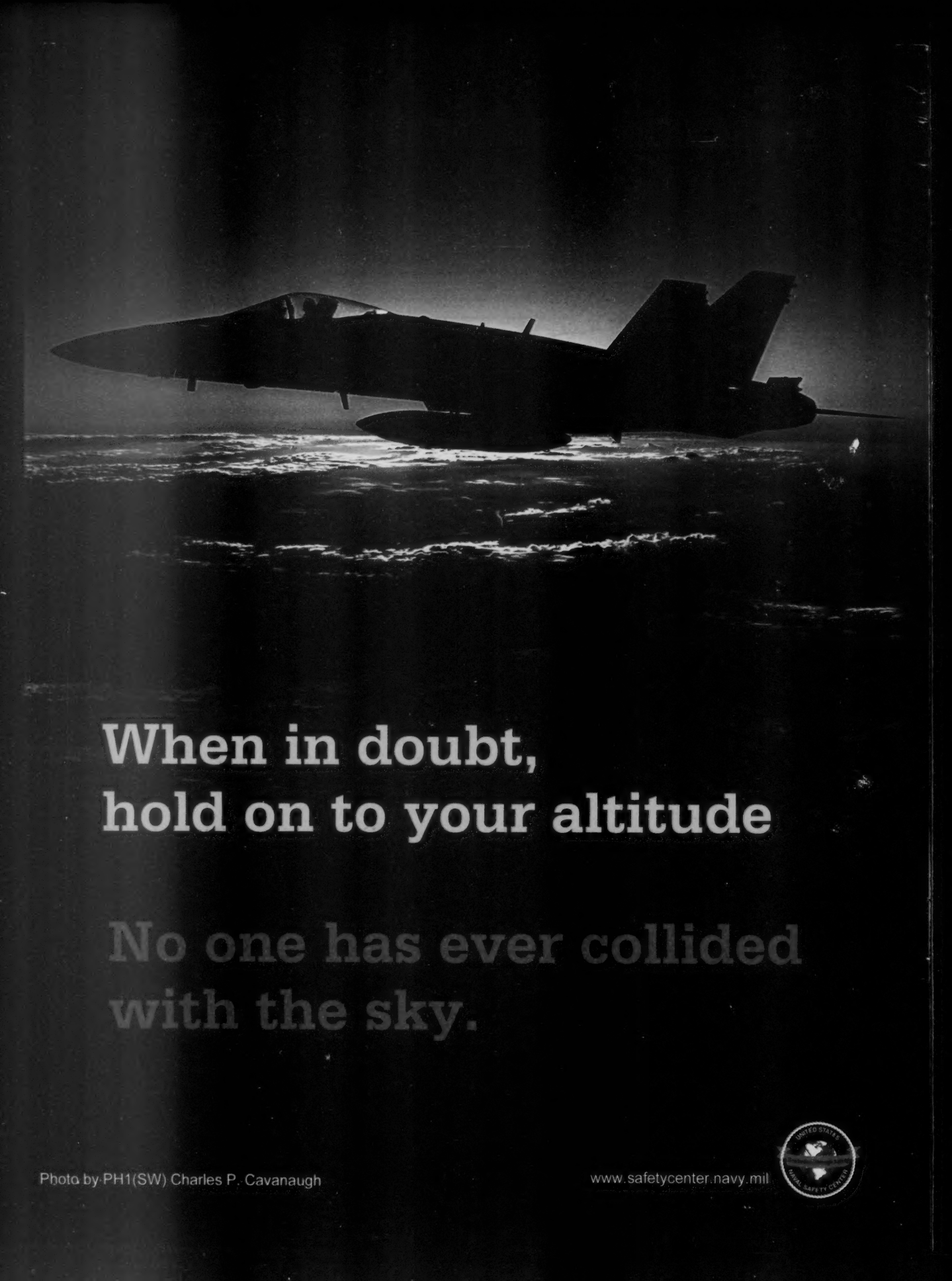
That's enough out of you, wise guy!



And don't forget, a lecture always looks good on your permanent record!


When in doubt,
hold on to your altitude
No one has ever collided
with the sky.
Photo by PH1(SW) Charles P. Cavanaugh
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